MONDAY, 31st JANUARY, 1876.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

The business of the Annual Meeting was first proceeded with.

The Honorary Treasurer, Mr. H. H. BURTON BRADLEY, presented his report, showing (with balance carried forward from last year of £91 10s. 2d.) gross collections amounting to £187 0s. 2d.; and disbursements for rent, printing, &c., of £86 4s. 4d.; and leaving a balance forward of £100 15s. 10d., reducible by cheques outstanding to £87 0s. 10d. He also presented a statement showing subscriptions outstanding on 1st January, 1876, of £191 6s., and mentioned that all accounts had been paid to 31st December, 1875.

The election of officers for the ensuing year was proceeded with, and the following were chosen :—President, Mr. William Macleay, F.L.S.; Vice-President, the Hon. Sir W. Macarthur, M.L.C.; Hon. Secretary, Commander Stackhouse, R.N.; Hon Treasurer, Mr. H. H. Burton Bradley. Council: Mr. H. C. Alleyne, M.D.; Professor Liversidge; Mr. James C. Cox, M.D.; Mr. E. P. Ramsay, F.L.S.; Mr. Alfred Roberts; Mr. W. J. Stephens, M.A.

A vote of thanks was passed to the office-bearers of the past year.

THE CHAIRMAN'S ADDRESS.

The CHAIRMAN read the following address :—

The Linnean Society of New South Wales has now completed the first year of its existence, and in accordance with a rule observed by almost all societies of a similar kind, I take the opportunity of the annual meeting to give you an address upon the progress of the Society and of Natural History generally during the past year, but chiefly in what relates to Australia and Australian surroundings.

The object of the society has been succinctly stated in the published rules to be "the cultivation and study of the Science of Natural History in all its branches." But comparatively few people are aware what a vast field of inquiry and study is included under the term Natural History, as understood in its true meaning, and as taught by the illustrious man whose name we have adopted for this society.

The great divisions of Nature—Zoology, Botany, Mineralogy, and Meteorology include within them the sciences of Anthropology, Ethnology, Animal and Vegetable Physiology, Histology, Geography, Geology, Palæontology, and to some extent even those of Chemistry and Medicine.

The extent and interest, therefore, of the many subjects comprehended within the scope of the society gave the hope that in a country such as this, comprising in its population a more than average number of men of good and liberal education, it would not have been difficult to inaugurate and carry on successfully a society formed solely for the cultivation of natural history.

Attempts had been previously made in Sydney to establish Societies of Natural History, but on a narrowor limit than the present. I was for some years here connected with a society which was limited to the science of Entomology. While it lasted that Society was most successful. Two volumes of transactions were published, and the demand for these works in Europe sufficiently demonstrates the value placed on them by the scientific world. But the sole charge of keeping up the Society ultimately fell upon such a very few individuals that it was at length given up. And such I fear will always be the fate of scientific societies as soon as the novelty of initiation wears off, unless its objects comprise a sufficient scope of subjects to hold together a number of working members. It is in the belief that an ample variety of subjects are embraced under the term Natural History, to effect this purpose, that the present Society has been formed. It is at present, as I have said, the only exclusively natural history Society in New South Wales, and I believe in Australia, though there are

others of a most useful character in which some excellent scientific papers have been read—I allude particularly to the Royal Society of Sydney. This is a well-established society, possessing ample funds, and having a long list of subscribing members. It has, moreover, among its office-bearers and members the most scientific men in the community, and a number of valuable papers have been read at its meetings. But mingled with those scientific papers have been others not of a scientific character, and possessing certainly no interest except of the most local kind. The publications of its proceedings also have not been conducted with the celerity and regularity to be expected from a society not deficient in point of means, and it is that irregularity and uncertainty in publication which makes it as a society useless as a record of zoological, botanical, or geological discovery.

Our Society has as yet had no reason to complain of want of public support. The list of members is large, the funds, as will be seen by the report of the hon. treasurer, have not been deficient, and the proceedings of the monthly meetings, with the papers read, have been printed as soon as the matter in hand was sufficient for an octavo sheet. And the only regret I have to express is, that the numbers of those contributing papers are not greater, and that Zoology seems to turn the scale upon Botany and Geology.

Everything, however, must have a beginning, and I cannot say that the difficulties experienced in the formation of the Linnean Society of New South Wales—difficulties which have been chiefly felt and encountered by our excellent honorary secretary, Captain Stackhouse, R.N.—are greater than those usually encountered under similar circumstances.

The papers read at the monthly meeting of the society since its inauguration, are as follows :—

By Mr. Brazier: Descriptions of fourteen species of terrestrial fluviatile and marine shells from Australia and the Solomon Islands.

Description of eight species of Australian and Tasmanian land and freshwater shells.

By Mr. Ramsay : Description of a new species of *Ptilotis* from the Endeavour River, with some remarks on the natural history of the East Coast Range near Rockingham Bay.

Description of a new *Trichoglossus* from Fiji.

Description of a new rat kangaroo, *Hypsiyrymnoden moschatus.*

Descriptions of a new genus and Species of birds, *Vitia rufi-capilla*; also of the following new species: *Merula ruficeps, Rhipidura personata, Pachycephala Randavensis* and *Lamprotia Klinesmithii*, all from Fiji.

Description of *Pachycepala citreogaster*, from New Britain.

Remarks on a collection of birds lately received from Fiji, and now forming part of the Macleayan museum, with a list of all the species known to inhabit the Fijian group.

Description of a new species of bat, *Taphyzous Hargravii.*

By Dr. Cox: On the arms and weapons of the aborigines of Australasia and Polynesia.

My own contributions have been. A short account of the *Entozoa* taken from a sun fish, captured at Port Stephens.

Notes on a new species of *Dendrophis*, from Cleveland Bay.

General observations on the zoological results of the Chevert expedition to New Guinea.

By Mr. Masters: Part 1 of the ornithology of the voyage of the Chevert. This paper treats of the Australian birds only, it contains descriptions of ten new species, and gives much information about many previously little known. The birds of New Guinea will form the subject of Mr. Masters's next paper.

In addition to the reading of these papers there have been some very interesting exhibits at the meetings, and several handsome donations have been made to the Museum of the society.

The papers read during the same period at the meetings of the Royal Society of New South Wales on scientific subjects have been—

Descriptions of eleven new species of terrestial and marine shells from the north-east coast of Australia. By John Brazier, C.M.Z.S.

Iron and coal deposits at Wallerawang. By Professor Liversidge.

Nickel mineral from New Caledonia. By Professor Liversidge.

Results of observations of the late Transit of Venus. By H. C. Russell, M.A., Government Astronomer.

Results of observations at Eden of the late Transit of Venus. By the Rev. William Scott, M.A., Warden of St. Paul's College.

The President of the Society, the Rev. W. B. Clarke, M.A., read on the occasion of the annual meeting on the 12th May a very lengthy address on a variety of subjects of the greatest interest to the naturalist. The matter chiefly dwelt upon, however, was the scientific results of the Challenger expedition, and a most elaborate and interesting account of the wonderful deep-sea discoveries of Professor Wyville Thomson and his able assistants takes up the largest portion of this very able address. The reverend gentleman has since supplemented his address by reading at a meeting of the society only a month ago a further account of the Challenger discoveries, bringing in fact our knowledge of their proceedings down to the present day.

A very useful little volume has been published during the year, at the Government Printing Office, by the direction of the Hon. John Lucas, Minister for Mines. It is entitled "Mines and Mineral Statistics of New South Wales," and contains :—Notes on the geological collection of the Department of Mines. By Charles Wilkinson, Esq., Government geologist.—Remarks on the sedimentary formations of New South Wales. By the Rev. W. B. Clarke, M.A., F.G.S., F.R.G.S., &c.—Notes on the iron and coal deposits of Wallerawang, and on the diamond fields. By Professor Liversidge, F.C.S., F.G.S., &c.; and reports from the Wardens of the various gold mining districts of the colony.

Another work of a very useful character has just issued, or is about to issue from the Government Printing Press. It is the first part of a work on the birds of Australia, by E. P. Ramsay, F.L.S., &c., Curator of the Australian Museum. The part now published comprehends the whole of the raptorial birds, and if the work is completed in the same careful and correct way as the first part, it will prove of the greatest value to the ornithologist.

I have not been able to hear of any Botanical publication in New South Wales during the year.*

In the colony of Victoria there are several societies of a more or less scientific character.

* This is a mistake. I find that during the year a very beautiful illustrated work on the Orchids of Australia has been printed at the Government Printing Office by Mr. Fitzgerald of the Lands Department.

Of these the Royal Society of Victoria takes the first place.

The papers read at its meetings during the last year on subjects connected with Natural History were :—

On some upper *Paleozoic Polyzoa* from Queensland. By Mr. R. Etheridge.

On the Importance of a more close and systematic observation of the Oceanic and Atmospheric Phenomena of our Coasts. By Mr. T. Rawlinson.

An account of some of the results of the Challenger Expedition. By Mr. G. Foord.

On the phenomena of approach and recession exhibited by bodies under the influence of radial energy. By Mr. A. M. Smith.

On the meteor of April 15. By Mr. J. Berry.

The Zoological and Acclimatisation Society of Victoria have, I am told, published during the year a volume of their Transactions, but I have been unable to procure, or even see, a copy of it, and I am entirely without information as to the character of the publication.

The Microscopical Society of Melbourne has, I am informed, held many meetings during the year, but has not published anything.

The Mining Department of the Victorian Government has just published a geological map of the whole of Australia, accompanied by a progress report of the geological survey of Victoria. By Mr. R. B. Smyth. A description of some fossil fruits from the gold drift sections of Victoria. By Baron Von Mueller.—Two decades of the palæontology of Victoria. By Professor M'Coy.—Several essays by the analyst, Mr. Cosmo Newberry, Mr. Howitt, and others taking part in the geological survey.

Baron Von Mueller has also just published a small pamphlet on some Papuan plants, collected during my late expedition to New Guinea, in the Chevert. The same distinguished botanist has, I believe, published several parts of his "*Fragmenta Phyotgraphiæ Australiæ*," during the past year, as well as a long and really useful article in some publication connected with the International Exhibition at Philadelphia, on the subject of the vegetative capabilities of Victoria.

It will thus be seen that our neighbours of Victoria are far from being behind-hand in the pursuit of natural history.

I have not been able to ascertain that anything has been published in Queensland having reference to natural history during 1875. But a museum has been founded at Brisbane, and considerable progress has been made towards a geological survey of the colony.

In South Australia, Mr. Waterhouse, the director of the public Museum at Adelaide, has published a catalogue of the mammals and birds of that colony and of the Northern territory; and Dr. Schomburgh, the director of the public gardens, has published an interesting paper on the flora of the colony, giving a complete list of all the plants known both in South Australia proper and the Northern territory. Both these papers have made their appearance in a volume published by order of the Government for the International Exhibition at Philadelphia, under the name of the "Handbook of South Australia."

Tasmania still remains the subject of the very interesting experiment made some years ago of introducing salmon ova into its rivers. Many reports have each year been circulated about the reappearance of these fish, and I believe that there is good ground to believe now that such is really the case; but definite proof seems still to be wanting of the perfect success of the experiment.

I find it impossible to get information as to what has been done in scientific matters in New Zealand during the past year; but we know that it possesses four museums, each presided over by men of scientific eminence, and that the colony numbers among its population many gentlemen of considerable scientific attainments. I have only seen one publication—a small volume on the geology of Otago, by F. W. Hutton, Provincial Geologist. From Newspapers also I derive the information that considerable discoveries have been made of *moa* and other bones, giving evidence of the very late disappearance of these gigantic birds.

In other parts of the world, amidst a mass of works published on natural history, a good deal has been written which refers to Australian subjects.

The "Proceedings of the Zoological Society of London for 1875" (including Part 4 of 1874, but published in 1875) contain the following :—

Letter concerning the existence of a new parrot on the east coast of Australia. By John Goold, F.R.S., &c.

Descriptions of five new birds from Queensland, and of the egg of *Chlamydodera maculata*. By E. P. Ramsay, C.M.Z.S.

Description of a new species of kangaroo. By Albert Gunther, V.P.Z.S., &c.

Ornithological notes from Fiji, with descriptions of supposed new species of birds. By E. L. Layard, F.Z.S., &c., H.B.M. Consul for Fiji and Tonga.

Descriptions of ten new species of shells from the collection of Mr. Charles Coxen, of Brisbane. By John Brazier, C.M.Z.S., &c.

On the kangaroo called *Halmaturus luctuosus*, by D'Albertis, and its affinities. By A. H. Garrod, B.A., F.Z.S., Fellow of St. John's College, Cambridge, Protector of the Society.

Notes on the original specimen of *Ptilonorhyncus Rawnsleyi*. By E. P. Ramsay, C.M.Z.S., &c.

Further remarks on the Cassowaries living in the Society's Gardens, and other species of the genus *Casuarius*. By P. L. Sclater, M.A., Ph. D., F.R.S., Secretary to the Society.

Descriptions of some rare eggs of Australian birds. By E. P. Ramsay, C.M.Z.S.

Descriptions of some supposed new species of birds from the Fiji Islands. By E. L. Layard, F.Z.S., H.B.M.C., administering the Government.

Descriptions of three new species of Australian birds. By John Gould, F.R.S., V.P.Z.S., &c.

Descriptions of three new species of shells from Australia. By George French Angus, C.M.Z.S., F.L.S., &c.

Notes on Fijian birds. By E. L. Layard, F.Z.S., &c.

The twenty-first of his series of memoirs on the extinct birds of the genus *Dinornis*. By Professor Owen, C.B., F.R.S., &c.

The proceedings of the Linnæan Society of London for 1875 do not contain (as far, at all events, as their publications have reached this country) any paper specially relating to Australia, either in

their zoological or botanical divisions. This, however, is unusual, as during the last few years many articles, chiefly on the entomology of Australia, have appeared in its journal from the pen of Francis P. Pascoe, F.L.S., and E. Saunders, F.L.S.

The publications affecting Australia in the Transactions of the Entomological Society of London are :—

Contributions towards a knowledge of the *Rhopalocera* of Australia. By Arthur Butler, F.L.S. and F.Z.S., &c.

Descriptions of new *Coleoptera* from Australia. By Charles O. Waterhouse.

The Annals and Magazine of Natural History (the very best periodical I know) have the following articles more or less affecting Australia.

Description of two new species of *Crustacea*, from New Zealand. By Captain F. M. Hutton, C.M.Z.S., &c.

Notes on *Coleoptera*, with description of new genera and species. part 3. By Francis P. Pascoe, F.L.S., &c.

Descriptions of five new species of fishes, obtained in the New Zealand seas, by H.M.S. Challenger's expedition, in July, 1874. By James Hector, M.D., C.M.Z S., &c.

Notes on certain genera of *Agaristidæ*, with descriptions of new species. By Arthur Gardiner Butler, F.L.S., F.Z.S., &c.

On *Pelagonomertes Rollestoni*. By H. N. Mosely, naturalist on board H.M.S. Challenger.

On a third new Tertiary species of *Trigonia*. By Frederick M'Coy, Professor of Natural Science in the University of Melbourne.

Dr. A. B. Meyer, on the identity of *Ceratodus Forsteri* and *Miolepis*. From the proceedings of the Royal Society.

Notes on an apparently new parrot, from Cardwell, N.E. Australia. By Frederick M'Coy, Professor of Natural Science in the University of Melbourne.

Additions to the Australian *Curculionidæ*, Part 8. By Francis P. Pascoe, F.L.S., &c.

On a Tertiary *Pleurotomaria*. By Frederick M'Coy, Professor of Natural Science in the University of Melbourne.

Descriptions of new genera and species of New Zealand *Coleoptera*. By Francis P. Pascoe, F.L.S., &c.

Further contributions to the Ornithology of Australia. By John Gould, F.R.S., &c.

Descriptions of new species of New Zealand Fish. By F. M. Hutton, Curator of the Otago Museum.

On some New and Undescribed Species of *Crustacea*, from the Samoan Islands. By Edward J. Miers, Zoological Department, British Museum.

Descriptions of a new species of *Trichoglossus*, from Fiji. By E. L. Layard, F.Z.S., Consul for Fiji and Tonga.

I am aware that the list I have now given of the papers read and books written during the year, bearing chiefly on the natural history of Australia is a most imperfect one, even as regards the publications in the colonies themselves, as well as in the mother country.

But to give a full and correct list is quite beyond my power. To do so would necessitate the examination of a series of foreign scientific periodicals, too numerous to mention. Suffice it to say that the student who wishes to keep himself informed as to all the literary productions on the natural history of Australia must gather his information from a multiplicity of sources, and in a variety of languages. That this is so, I can myself testify, but is it either right or necessary that it should be so?

As we know, the study of natural history is, as a rule, more general in France and Germany than it has ever been in England, and it is to the great naturalists of these countries the scientific world is indebted for the most prized and valuable works. I admit, therefore, that any one aspiring to what may be called the higher branches of natural science must be a good linguist. He must be acquainted with Greek, Latin, French, and German, and would find the benefit of knowing also the Dutch, Italian, Russian, and Norwegian languages. But there may be, and indeed are here, many ardent students of nature, who are not polyglottists, and who, even if they were, have not the means of accumulating the mass of literature necessary to enable them to investigate a single group of a strictly Australian family.

This difficulty may, I think, be much reduced, if not ultimately entirely obviated, by means of our society.

With this view I would suggest that upon any revision or reclassification of a group of plants or animals undertaken by a member of the society, such revision or reclassification should be accompanied by reproduced descriptions of each genus and species, with proper references to the original authors.

Of course these pirated descriptions should be avoided where the original work is at all attainable.

My position as President of this Society gives me no right to thrust my advice upon you, but I am desirous of giving assistance, in so far as my judgment approves, in contributing to the usefulness of the society, and I claim to know to some extent how that can be best accomplished.

I am convinced that we cannot do better in the present state of Natural History in Australia than confine our attention to observing, cataloguing, and describing. The synthetical work may well, I think, be left for the present to the legion of writers who aspire to what is foolishly called "high science."

The reason why I recommend descriptive catalogues is because they are not only what are most required (our knowledge of the Fauna of Australia being still very limited), but because any generalization of, or deductions from, what we do know cannot be of much value with our present imperfect knowledge.

Something has already been done in this direction in this country. Mr. Kreft, the late Curator of the Australian Museum, published some years ago an excellent work on the then known snakes of Australia. The late Dr. Grey, of the British Museum, published also, some years ago, "The Lizards of Australia;" and Mr. Masters has compiled catalogues of our *Coleoptera* and *Diurnal Lepidoptera*.

There is no better exercise for the student than the describing of new species, and there certainly is no better way of making himself useful to the workers in other spheres of Natural History who have not the same opportunities of observation and comparison. Classification and nomenclature which involves the description of new species are to science what grammar and words are to a language. Without them it becomes impossible to benefit by the observations

of others, or to communicate to others one's own. The analytical experience also, which is involved in the act of description, and the careful study it necessitates of structure and anatomy, render it a good as well as useful way of laying the solid foundation of knowledge, on which a superstructure of "high science" may be reared.

The progress of natural science generally throughout the year 1875, if estimated by the number of publications and the mass of printed matter laid before the public, would be perhaps above the average.

And undoubtedly some men of the highest renown as physiologists have during that period contributed much towards our acquaintance with both animal and vegetable structure. But unfortunately it seems to have become the fashion, even among our best men, English and foreign, to aim at originality by being obscure, to confound physics and metaphysics, and to substitute transcendentalism for a plain statement of facts. And I am afraid that this sort of writing is encouraged by a reading, but not very discerning public who are prone to accept sensationalism as a mark of genius, and long words as proofs of knowledge.

Foremost amongst the books of the year must be reckoned Darwin's "Insectivorous Plants." In this admirable work we have, as indeed in all his productions, an example of patient and laborious investigation, coupled with synthetical genius of most remarkable power.

Next to Darwin may be ranked Häckel. No modern physiologist has been a more ardent or voluminous supporter of the evolution theory of creation for some years than Häckel. His latest work, published in 1874, though not reaching this country till 1875, entitled "Die Gastræa—Theorie, die phylogenetische Classification und die Hemelogie der Keimblatter," is an attempt to found a theory of classification, or even creation, upon an embryonal form, which he names *gastræa*.

Another German, Dr. Alexander Götte, Professor of the University of Strasburg, has another embryonic theory, and endeavours to show that every species originates through the laws regulating the first divisions of the yolk.

And still another German, Dr. Anton Dohrn, now of Naples, asserts with some force that development is not always progressive in the sense meant by Lamarck, but that it is quite as ready to be retrogressive.

Professor Huxley also has during the year propounded a new classification of the animal kingdom, founded chiefly, as I understand it, upon visceral development, on the ground that a Phylogenetic classification, though the best, cannot for a long time be investigated in such a thorough manner as to form a sound basis of taxonomy.

These are, I think, the chief of what may be called the speculative works on natural science lately published; but there are many others of a perhaps more useful but less pretentious character, which I would willingly notice if time and space would warrant it.

It is evident, I think, from the general tenor of scientific literature for some years past, that the evolution theory, long so unpopular, and which under Lamarck's teaching gained so few proselytes, has, under the superior fascinations of Darwin's admirable work, "The Origin of Species," become the fashionable faith.

But what may be generally believed is not necessarily true or worthy of belief.

The mass of the reading world are generally prepared to accept without much question, the views adopted by those whom they have been accustomed to look up to as authorities.

The really scientific men who have become converts to the doctrine, and they are now very numerous, differ in reality a great deal more than they agree. While all accept the principle of evolution, they almost all differ as to the process. The consequence is, that we have theory after theory propounded, all founded no doubt, upon useful and laborious investigations, but which are useless in themselves, except as giving a motive for more extended observations.

I believe myself, that the Scottish verdict of "not proven" would be the best way of meeting all these barren theories.

We know certain things. We know from the evidence of the rocks that species both of plants and animals have existed on the earth, which are now extinct. We know that species which now

exist did not exist at a previous period. And we know that no apparent variation can be traced in any existing species since the period assigned for man's first appearance on the globe. And it must be admitted that the testimony of the rocks, so far from giving ground for a theory of a continuous modification of form, seems rather to afford proof that there have been many successions of distinct creations at long intervening periods.

Our knowledge of creation or of the order of creation extends no further than this, notwithstanding the anxious efforts of the most accomplished men of the present and past generations. It seems really as if we had, at this point, reached the utmost range of the human intellect.

But if the mystery of creation is ever to be unveiled by man—if the plan of the universe, or, in other words, the mind of the Almighty is ever to be ascertained by human means, it will be by a thoughtful study of the works of the Creator, and by a genuine searching after truth, unbiassed by all previously-conceived theories.

The business of the ORDINARY MONTHLY MEETING was then proceeded with.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

MEMBERS PROPOSED.

Mr. Harrie Wood, Under-Secretary for Mines; Mr. Guilfoyle, Director Botanic Gardens, Melbourne; the Hon. F. Lord, M.L.C., St. Leonards; Mr. Alfred Brown, of Queensland.

MR. BRAZIER read the following Paper:—